APPENDIX B. REASSESSMENT NOTES FOR THE BIG RACCOON CREEK WATERSHED TMDL

HUC-	2010	2012	STREAM			E. coli	E. coli	Concer	ntration				
12	AUID	AUID	NAME	Date	Site	MPN	Geomean	TP	DO	NOTES	E. coli	TP	TSS
	INB08G1 _T1034	INB08C1 _01	Big Raccoon Creek	4/26/2010 5/4/2010 5/11/2010 5/17/2010 5/25/2010 8/8/2005	WLV160- 0063 WLV160- 0019 WLV160- 0018	2419.6 1119.9 2419.6 1119.9 2419.6	1777.94			E. coli results (1777.94) indicate impairment of mainstem. New Ross WWTP is located immediately upstream of the mainstem sampling site. Advance WWTP also located along mainstem further upstream. Open dump site located outside the town of Max and drains into the headwater of Big Raccoon. Land use is primarily rowcrop agriculture. Due to CFOs in the area land application is a possibility in surrounding fields. Fish communities collected in 2005 along the larger mainstem show no impairment although as you move upstream to the headwaters the fish	NS	FS	FS
				8/8/2005 8/8/2005	WLV160- 0043 WLV160- 0016					community becomes significantly impaired (goes from IBI=44 to IBI=16). CFO in watershed (Paul R Smith Hog Farm) is no longer active. Due to homogenous landuse the impairment applies to entire watershed.			
51201081201	INB08G1 _T1001	INB08C1 _T1001	Unnamed Trib to Big Raccoon Creek							Town of Advance drains into tributary. No point sources on tributary although landuse is primarily rowcrop agriculture and the presence of CFOs in the vicinity makes land application likely. No riparian. Same impairment applies to stream segment due to homogenous landuse.	NS	FS	FS
51201	INB08G1 _01A	INB08C1 _T1002	Dickey Ditch							No point sources on tributary although landuse is primarily rowcrop agriculture and the presence of CFOs in the vicinity makes land application likely. No riparian. Same impairment applies to stream segment due to homogenous landuse.	NS	FS	FS
		INB08C1 _T1003	Cook Ditch							Landuse is primarily rowcrop agriculture and land application is likely due to CFOs in the area. No riparian. Same impairment applies to stream segment due to homogenous landuse.	NS	FS	FS
		INB08C1 _T1004	Wells Ditch	8/8/2005	WLV160- 0017			0.68	3.5	Fish community collected in 2005 indicate impairment (IBI=12 very poor). Stream segment should be impaired for IBC as well as E. coli due to the presence of rowcrop agriculture and lack of riparian buffers. Some residential homes near stream with possible septic issues. Several large farms of some sort in the area. Dissolved oxygen <4.0 and would be an impairment if sampled 3 times. Low DO and high TP indicate a nutrient impairment, however there were not 3 rounds of sampling conducted in 2005.	NS	NS	FS
51201081202	INB08G2 _T1035	INB08C2 _02	Big Raccoon Creek	4/26/2010 5/4/2010 5/11/2010 5/17/2010 5/25/2010 8/8/2005	WLV160- 0045 WLV160-	2419.6 2419.6 2419.6 1299.7 2419.6	2136.8			E. coli impairment continues downstream from site WLV160-0063. Currently 303d listed with an E. coli impairment. Stream reach will remain impaired. Fish communities sampled at 3 sites along the mainstem and no biological impairments exist. Impairment on mainstem increases in a ds direction due to sources contributed from tribs. Assessment applies to entire watershed. Some CFOs in watershed but no longer active.	NS	FS	FS

				8/10/2005	WLV160- 0020]
				8/10/2005	WLV160- 0045								
		INB08C2 _T1011	Unnamed Trib to Big Raccoon Creek							Landuse is primarily rowcrop agriculture. Narrow or no riparian buffer along stream. These non-point sources make a likely case that this tributary is impaired and contributing to downstream impairment on mainstem.	NS	FS	FS
		INB08C2 _T1012	Unnamed Trib to Big Raccoon Creek							The town on New Ross is located within the drainage basin of this tributary. Landuse upstream and downstream of New Ross is rowcrop agriculture. Tributary contributes to E. coli impairment downstream on the mainstem.	NS	FS	FS
		INB08C2 _T1013	Unnamed Trib to Big Raccoon Creek							Landuse is primarily rowcrop agriculture and land application is likely due to CFOs in the area. Riparian is narrow with some larger forested patches. Due to the similar landuse practices in the area this tributary likely contributes to the E. coli impairment downstream.	NS	FS	FS
	INB08G4 _00	INB08C3 _01	Haw Creek	4/26/2010 5/4/2010 5/11/2010 5/17/2010 5/25/2010	WLV160- 0027				E. coli results (2104.12) indicate severe impairment along mainstem of Haw Creek. Three sites sampled on Haw Creek for fish community in 2005 and no impairments were found. While there were no chemical violations in 2005 there was high total phosphorus, high total nitrogen, high TSS and low DO. The site WLV160-0030 is located	NS	FS	FS	
				8/10/2005 8/10/2005 8/9/2005	WLV160- 0026 WLV160- 0027 WLV160- 0030			0.18 0.35 -1	7.6 5.5 10.7	downstream of the confluence with Lick Creek and there are lower levels of nitrogen, likely due to the dilution from Lick Creek. Landuse is completely rowcrop agriculture in drainage basin. Septic not likely causing impairment due to just a handful of homes. Impairment applies to all tributaries to Haw Creek due to homogenous landuse.			
51201081203	INB08G4 _00	INB08C3 _02	Lick Creek	4/26/2010 5/4/2010 5/11/2010 5/17/2010 5/25/2010 8/9/2005 8/9/2005	WLV160- 0064 WLV160- 0028 WLV160- 0042 WLV160- 0029	2419.6 980.4 1553.1 1046.2 613.1	1187.68			E. coli results (1187.68) indicate severe impairment. Three fish community samples taken in 2005 and no biological impairments were found. Nitrate+Nitrite levels were high at site WLV160-0028 although no standards were violated. Forested riparian buffers are present throughout mainstem. The town of Roachdale is nearby and partially included in the drainage basin, development of this area could be contributing runoff. Roachdale WWTP located nearby but flows south into Cline Creek. Primary landuse is agricultural rowcrop.	NS	FS	FS
		INB08C3 _T1001	Unnamed Trib to Haw Creek							Similar landuse to mainstem. Primarily rowcrop agriculture.	NS	FS	FS
		INB08C3 _T1002	Unnamed Trib to Haw Creek							Rowcrop agriculture with narrow riparian buffers. Landuse similar and the agricultural sources are likely to contribute to the E. coli impairment on Haw Creek.	NS	FS	FS
		INB08C3 _T1003	Unnamed Trib to Haw Creek							Similar landuse to other tributaries (rowcrop ag). Narrow riparian buffers. Segment will be impaired for E. coli based on information and landuse practices.	NS	FS	FS
		INB08C3	Unnamed							Landuse primarily rowcrop agriculture. E. coli levels likely	NS	FS	FS

]	_T1004	Trib to							contributing to mainstem impairment.			
			Haw							1			
			Creek										
		INB08C3	Unnamed Trib to							Primarily used for agriculture.	NS	FS	FS
		_T1005	Lick Creek							Fillially used for agriculture.	INO	13	13
				4/26/2010		686.7							
		ļ		5/4/2010		307.6				-			
				5/11/2010	WLV160-	686.7	543.13			-			
	INB08G5			5/17/2010	0035	1553.1	343.13			-		FS FS FS FS	
	_01			5/25/2010		209.8							
	_			4/26/2010		2419.6				E. coli results show an increasing impairment in a downstream direction. The upstream results (543.13) are		FS FS FS	
				5/4/2010		2419.6				moderately impaired and the downstream results (2214.29)			
				5/11/2010	WLV160-	1553.1	2214.29			show a severe impairment. Landuse is primarily rowcrop			
		INB08C4	Cornstalk	5/17/2010	0038	2419.6				agriculture. Narrow to no buffers surrounding stream. Currently 303d listed with an IBC impairment. Both			
		_01	Creek	5/25/2010		2419.6				WLV160-0034 and WLV160-0035 have IBC impairments,	NS	FS	FS
					WLV160-			0.45	0.4	the sites further downstream do not have IBC impairments.			
51201081204				8/9/2005	0034			0.15	2.1	DO violoations at the time of sampling in 2005. The DO violation is in the headwaters and gradually increases in a			
	INB08G5			8/9/2005	WLV160- 0035			0.1	3.5	ds direction. DO violations occurred in August during low			
	_02			0/0/0005	WLV160-			0.00	4.0	flow conditions.			
				8/9/2005	0036			0.09	4.3				
				8/9/2005	WLV160- 0037			0.06	6.5			50	
512				0/40/0005	WLV160-			0.4	0.50	-			
				8/10/2005	0038			0.1	6.58				
		INB08C4	Unnamed Trib to							Wetland along one of the branches to the tributary but still primarily rowcrop agriculture landuse. Narrow riparian			
		_T1001	Cornstalk							buffers along tributary. Stream segment should be	NS	FS	FS
		_	Creek							impaired for E. coli.			
		INB08C4	Unnamed Trib to							Small stand of trees surrounding tributary headwater but			
		_T1002	Cornstalk							remainder of stream reach primarily rowcrop agriculture.	NS	FS	FS
		_	Creek							Stream segment should be impaired for E. coli.			
		INB08C4	Unnamed Trib to							Narrow riparian buffer however due to homogenous			
		_T1003	Cornstalk							agricultural practices the impairment applies to this	NS	FS	FS
		_	Creek							tributary.			
		INB08C4	Unnamed Trib to							E. coli impairment based on rowcrop agriculture landuse.			
		_T1004	Cornstalk							No riparian buffer for majority of stream. Small forested	NS	FS	FS
			Creek							riparian just before conflience with Cornstalk Creek.			
										Stream reach currently listed on the 303d list for IBC. Not certain why its impaired because there is no historical			
ក្	INB08G8	INB08C5	North							biological data for stream reach. Stream reach will remain	NS	EC	FS
120	_T1041	_01	Ramp Creek							impaired. Landuse is primarily agriculture. E. coli	INO	5	5
51201081205			2.30							impairment likely due to moderate impairment downstream on mainstem.			
120.			Linnamad										
5		INB08C5	Unnamed Trib to							The town of Carpentersville is in this drainage basin and could contribute if there are septic issues. Similar	NS	FS	FS
		_T1001	North							agricultural landuse.		. 💆	`
L	1		I	J	Į	J	l	J	·	1	ı	•	

		Ramp Creek									
		Unnamed Trib to									
	INB08C5	North						Similar agricultural landuse.	NS	FS	L
	_T1002	Ramp						omman agriounaria namadon			'
		Creek									
		Unnamed									
	INB08C5	Trib to						O'cellen a mi entre de la colona	NO		Ι.
	_T1003	North Ramp						Similar agricultural landuse.	NS	FS	'
		Creek									
		Unnamed									
	INB08C5	Trib to		1		1		Similar agricultural landuse with some forested riparian			
	_T1004	North		1		1		buffer.	NS	FS	ı
	_11004	Ramp						bullot.			
		Creek									-
		Unnamed Trib to		-		-		Upper reaches of stream segment agricultural landuse but			
	INB08C5	North		-		-		farther downstream there is a forested riparian buffers and	NS	FS	F
	_T1005	Ramp						wetlands. Slight bacterialogical contribution.			
		Creek									
		Unnamed									
	INB08C5	Trib to North						Landuse is primarily agriculture with narrow to no riparian	NS	FS FS	١,
	_T1006	Ramp						buffer.	110	'	Ι'
		Creek								FS FS	Щ
		Unnamed									
	INB08C5 _T1007	Trib to						Primarily agricultural land with a narrow faorested riparian	NO		١.
		North Ramp						buffer. Contribution of E.coli towards downstream impairment likely.	NS	F5	'
		Creek						ітрантен ікеіу.			\perp
		Courth						Stream reach currenlty listed on the 303d list for IBC.			
INB08G9	INB08C5	South Ramp						Stream reach will remain impaired. Landuse is primarily	NS	FS	FS
_T1042	_T1008	Creek						agriculture and due to the downstream E. coli impairment on Ramp Creek this tributary likely contributes.	140		
			04/26/10		2419.6			on reality cross and analysis of the contraction			-
				1		1		 			
			05/04/10	WLV160-	191.8			- 			
			05/11/10	0015	1732.9	819.58					
			05/17/10		1119.9			Fish community sampled in 2004 at upstream site and			
INB08G9	INB08C5	Ramp	05/25/10		410.6			results indicated no impairment. <i>E. coli</i> impairment is moderate at the upstream site and increases to severe at	NS	FS	,
_01	_02	Creek	04/26/10	_	1732.9			the downstream site. Landuse is primarily agricultural with	140	'	
			05/04/10	14/11/400	325.5			some forested patches along the corridor.			1
			05/11/10	WLV160- 0068	2419.6	1062.79					
			05/17/10		2419.6						
			05/25/10		410.6						
		_						Good forested buffer along entire stream reach. No data			
INB08G9 _T1001	INB08C5	Peters						collected on stream to support impairment. Other	NS	FS	F
	_T1009	Creek		1		İ		tributaries that flow into Ramp Creek likely contribute to the		I	'
_T1001	_						l	E. coli impairment.			

Ì		_T1010	Trib to						7		I	
			Ramp									
			Creek	_					7			
				4/26/2010		2419.6						
		INB08C6		5/4/2010		1732.9			E. coli results (1473.45) indicate severe impairment downstream of Lodoga. E. coli sampled in 1999 upstream			
				5/11/2010	WLV160-	1553.1	1473.45		of Ladoga and results indicated a moderate impairment			
	INB08G3		Big	5/17/2010	0025 686.7	1		(494.03). Landuse is primarily rowcrop agriculture				
	_T1036	_01	Raccoon Creek	5/25/2010		1553.1			downstream of the town of Ladoga. Ladoga WWTP has an effluent upstream of sampling location. Two fish sites	NS	FS	FS
		_0.	Creek	8/9/2005	WLV160-			on stream reach were sampled in 2005 and results show				
				8/9/2005	0025 WLV160-				no biological impairment. Site located downstream of Little Raccoon and is highly impaired for bacteria.			
				4/26/2010	0024	1299.7						
				5/4/2010		2419.6			-			
				5/11/2010	WLV160-	1986.3	1589.6		E. coli results (1589.6) indicate severe impairment. Three		FS FS	
				5/17/2010	0044	1553.1	1309.0		fish community samples were taken along the stream			
	INB08G3	INB08C6	Little	5/25/2010		1046.2			reach in 2005 and results show there are no biological impairments. There are 3 CFOs located along stream that			
	_00	_T1001	Raccoon Creek	8/9/2005	WLV160-	1040.2			are no longer active. Landuse is primarily rowcrop agriculture. Septics likely not a source since only a handful	NS	FS	FS
					0021 WLV160-				of homes in the area and would not cause an impairment			
				8/9/2005	0023				of this magnitude.			
				8/9/2005	WLV160- 0044							
90				4/26/2010		2419.6			E coli reculto (1690 05) indicata covera impairment		FS	
312			Big	5/4/2010		2419.6			E. coli results (1680.05) indicate severe impairment. Landuse primarily rowcrop agriculture. Currently impaired			
51201081206	INB08G6 _01	INB08C6 _02	Raccoon	5/11/2010	WLV160- 0065	1299.7	1680.05		on the 303d list for E. coli. Stream segment will remain	NS		FS
120	_01	_02	Creek	5/17/2010	0003	727			impaired. Impairment increases likely due to impairment contribution from Haw Creek.			
4,				5/25/2010		2419.6			contribution from haw Creek.			
				4/26/2010		1413.6			E.coli results (1562.21) indicate severe impairment. Two			
				5/4/2010		648.8			fish samples were collected in 2005 and no IBC impairments were found. Results from the site closest to			
				5/11/2010	WLV160- 0066	2419.6	1562.21		Roachdale (WLV160-0031) show high levels of			
	INB08G6	INB08C6	Cline	5/17/2010	0066	1732.9			phosphorus and a high DO which could indicate nutrient			
	_T1001	_T1002	Creek	5/25/2010		2419.6			impairment. Roachdale WWTP has an effluent on Cline Creek and High Point Oil in Roachdale has an external	NS	FS	FS
				8/9/2005	WLV160- 0031				outfall in the creek (treated groundwater). Landuse is urban around Roachdale and rowcrop agriculture with			
				8/10/2005	WLV160- 0032				some forested patches along the creek for the remainder of the watershed.			
				4/26/2010	3302	2419.6		† †				
				5/4/2010		1553.1			E. coli results (1158.67) indicate severe impairment along the mainstem. The historic results were much lower but			
	INB08G7			5/11/2010	WLV160-	866.4	1		still above the water quality standard. Currently impaired			
	_T1040		Dia.	5/11/2010	0002	488.4	1158.67		on the 303d list for E. coli. Stream segment will remain			
		INB08C6	Big Raccoon	5/17/2010		613.1			impaired. Heritage Environmental Service has acute effluent toxicity (landfill) external outfall on Big Raccoon.	NS	FS	FS
		_03	Creek	5/25/2010		1046.2			Tire dump and CFO which is no longer active in drainage			
				4/27/2004		123.6			basin. Landuse is primarily rowcrop agriculture with			
	INB08G6			5/4/2004	WLV160-	124.2	266.79		forested riparian along the downstream reaches. Fish community was sampled at site WLV160-0013 in 2004			
	_01			5/11/2004	0013	172.3	1		showed no impairment (IBI=52). No new inputs between			
			I		!		l	<u> </u>		1	<u> </u>	

				5/18/2004		188.1				sites since impairment is decreasing in ds direction.			1
				5/25/2004		1046.2							
H				4/26/2010		2419.6				Currently listed on the 303d list for IBC impairment.			
				5/4/2010		1299.7				Stream segment will remain impaired. Fish community was			
				5/11/2010	WLV160-	2419.6	1955.49			sampled in 2005 at two sites on the tributary. The farthest upstream resulted in impairment (IBI=32) but the site			
			Unnamed	5/17/2010	0067	1553.1	1000.40			downstream had recovered and there was no impairment.			
	INB08G6 _T1002	INB08C6 _T1003	Trib of Big Raccoon	5/25/2010		2419.6				There is an open dump site located next to the site with an	NS	NS	NS
		_11000	Creek	8/10/2005	WLV160- 0039	2410.0		0.33	2.5	IBC impairment. E. coli results (1955.49) indicate severe impairment. Landuse is primarily agriculture with some			
				8/10/2005	WLV160- 0040			0.21	5	forested riparian along stream downstream towards the confluence with Big Raccoon Creek. TSS results also showed impairment (74).			
		INB08C6	Unnamed Trib to Big							Due to similar landuse (rowcrop agriculture) this stream			
		_T1004	Raccoon Creek							segment likely is impaired for E. coli.	NS	FS	FS
ı			Unnamed							Due to similar landuse (rowcrop agriculture) this stream		FS FS	
		INB08C6	Trib to Big							segment likely is impaired for E. coli. The town on	NO		
		_T1005	Raccoon							Parkersburg is also in drainage basin and may have septic issues. However there is forested riparian surrounding the	NS	FS	FS
			Creek							majority of the tributary which may reduce E. coli loads.	NS FS NS FS NS FS NS FS		
Γ										Forested riparian buffer with some wetlands surrounding tributary. Due to high impairments throughout watershed			
			Unnamed							contributions likely from tributaries. Upstream impairments			
		INB08C6	Trib to Big							along mainstem are slowly decreasing in downstream	NS	FS	FS
		_T1006	Raccoon							direction however severe impairment still exists along	INO	13	' 3
			Creek							mainstem. Cannot definitively state that this stream is not impaired. Due to magnitude of mainstem all tributaries			
										likely contribute.			
										Wide forested riparian buffering stream but the steep			
			Unnamed							gradient would support bacteria impairments during wet weather events due to the runoff it causes. Several			
		INB08C6	Trib to Big							wetlands surrounding stream. Agriculture in the	NS	FS	FS
		_T1007	Raccoon							headwaters and just before confluence with Big Raccoon.	140	' "	'
			Creek							Impaired due to impairment downstream on Big Raccoon Creek. This tributary contributes to elevated E. coli			
										concentrations on the mainstem.			
	INB08GA			04/26/10		1553.1				Although no data was collected in 2005 the upstream			
	_00			05/04/10		1203.3				impairments will likely result in a portion of the mainstem segment to remain impaired for E. coli. There is still heavy			
		INB08C7	Big Raccoon	05/11/10	WLV160-	2419.6	1235.28			agriculture in the upper reaches which would likely	NC	EC	FS
	INB08GA	_01	Creek	05/17/10	0070	980.4	1233.20			contribute bacteria to the mainstem. The watershed	INS	гэ	5
	_T1043			05/25/10		648.8				becomes more forested in the downstream direction so the E. coli levels would likely steadily decrease in the downstream direction closer to Cecil Harden Lake.			
H			Unnamed										1
		INB08C7	Trib to Big							Landuse is heavy agriculture but there is a good forested riparian buffer. Stream reaches a likely still impaired	NS	FS	FS
		_T1001	Raccoon Creek							based on other tributaries with similar landuse practices.			
			Unnamed							Landuse is heavy agriculture but there is a good forested			
		INB08C7	Trib to Big					-	-	riparian buffer. Stream reaches a likely still impaired based on other tributaries with similar landuse practices.	NS	FS	EC
		_T1002	Raccoon							All tribs to this reach of Raccoon Creek have forested	CNI	۲٥	FS
			Creek			1				buffers but are heavily rowcropped in headwaters.			

INB08C7 _T1003	Unnamed Trib to Big Raccoon Creek	Primarily agriculture in the headwaters but wide forested riparian buffer as you move downstream. Due to surrounding agricultural landuses and the high gradient in this part of the watershed impairments are likely during wet weather, suggesting impairment similar to the rest of the watershed.	NS	FS	FS
INB08C7 _T1004	Unnamed	Wide forested riparian buffer with a mix of some agriculture. The high gradient in this area of the watershed would contribute to high runoff during rain events suggesting bacteria impairments during wet weather.	NS	FS	FS
INB08C7 _T1005	Unnamed Trib to Big Raccoon Creek	Wide forested riparian buffer along entire stream reach. The high gradient in this area of the watershed would contribute to high runoff during rain events suggesting bacteria impairments during wet weather.	NS	FS	FS
INB08C7 _T1006	Unnamed Trib to Big Raccoon Creek	Fish community data collected in 1999 indicate there is no biological impairment. Wide forested riparian buffer, but due to gradient in this part of the watershed fast runoff during rain events would suggest impairments during wet weather.	NS	FS	FS
INB08C7 _02	Byrd Branch	Primarily agricultural landuse in the headwaters with some forested patches of land. While there is no data supporting E. coli impairment, based on results from similar tributaries in the watershed this stream segmient is likely impaired.	NS	FS	FS
INB08C7 _T1007	Unnamed Trib to Byrd Branch	No data to support impairment but landuse is primarily agriculture and based on similar tributaries in the basin the stream is likely impaired for E. coli. Some forested land but primarily agriculture.	NS	FS	FS
INB08C7 _T1008	Unnamed Trib to Byrd Branch	No data to support impairment but landuse is primarily agriculture and based on similar tributaries in the basin the stream is likely impaired for E. coli.	NS	FS	FS